

Case 10638

An Uncommon Adnexal Tumour

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Section: Genital (Female) Imaging

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Patient: 48 year(s), female

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Clinical History

Premenopausal 48-year-old patient with acute pelvic pain. Pelvic computed tomography (CT) showed a solid mass located anteriorly to the uterus and the patient was referred to Magnetic Resonance (MR).

Imaging Findings

Pelvic CT revealed a 7cm solid tumour anteriorly and slightly to the right of the uterus, diffusely and homogeneously hypodense with a focus of calcification (Figure 1). Intra-uterine device and scarce intra-peritoneal fluid were noted.

Pelvic MR showed the tumour had low signal intensity in T1-weighted images (WI) and heterogeneous high signal on T2WI. The edges with uterus and right ovary were dull, but the claw and vascular bridging signs as also the beak sign and contiguity with ovarian vessels were absent (figure 3).

Torsed broad ligament or parasitic leiomyoma and fallopian tube tumour were considered and subserosal leiomyoma and benign stromal ovarian tumour seemed less probable.

At laparotomy a smooth encapsulated white tumour was found, with a vascular stalk with origin in the utero-ovarian ligament. The cut surface (Figure 4) was solid and yellowish-white. Histology showed spindle cell proliferation with dense, hyalinised, collagenous stroma suggestive of benign fibroma.

Discussion

The broad ligament is a double-layered peritoneal fold that encloses the parametrium. The ligament extends from the sides of the uterus to the pelvic sidewalls and the pelvic floor. The superior free margin is formed by the fallopian tubes medially and suspensory ligament of the ovary laterally. Its caudal margin is defined by the cardinal ligament [1].

Broad ligament tumours are generally asymptomatic. If significant size is reached they can be palpable and can become compressive over the pelvic organs.

Tumours of the broad ligament make differential diagnosis with adnexal, extra-adnexal and even extra-peritoneal tumours. To define the broad ligament origin the following conditions must be observed:

- both ovaries are defined independently from the tumour; beak and embedded organ signs should be absent;

- if there isn't a cleavage plan with uterine wall, claw sign should be absent;

- tumour vascularisation is independent from ovarian and uterine vessels (no relation with ovarian pedicle and absence of vascular bridging sign at interface with the uterus).

In 1977, Gardner et al. [2] proposed criteria for primary carcinoma of the broad ligament, namely the location within or on the surface of the broad ligament and a complete separation of the tumour from the uterus, ovary, and fallopian tube. When these criteria are applied, primary tumours of the broad ligament become extremely rare [3].

Leiomyoma is the most common primary mesenchymal tumour of the broad ligament, and different forms of the disease like cellular leiomyoma, diffuse leiomyomatosis, and association with fallopian tube torsion and pseudo-Meigs syndromes are described. Myolipoma, angioleiomyoma and solitary fibrous tumour are some other rare benign tumours reported [4]. Malignant tumours occurring in this location are mostly leiomyosarcomas, rhabdomyosarcomas and endometrial stromal sarcoma, myxoid liposarcomas, and alveolar soft part sarcomas [5]. Serous papillary tumours of borderline malignancy and cystadenocarcinomas are the most common primary epithelial malignant tumours.

Secondary malignancies include metastases from endometrial, cervical, and ovarian carcinomas.

The presented case report depicts an infrequent form of a rare pathology as few reports of broad ligament fibromas can be found in literature. The imaging findings favoured origin in the broad ligament and, although the CT and MR features were compatible with a benign tumour, weren't specific for fibroma. The high signal in T2WI, given the acute pelvic pain suggested torsion but this could not be confirmed on histology.

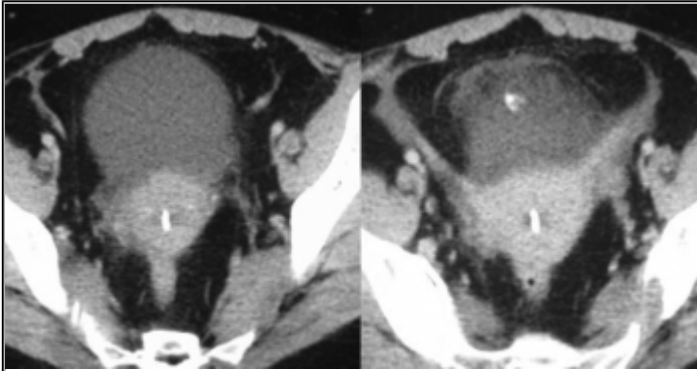
Final Diagnosis

Broad ligament fibroma

Differential Diagnosis List

Figures

Figure 1 Contrast enhanced pelvic CT

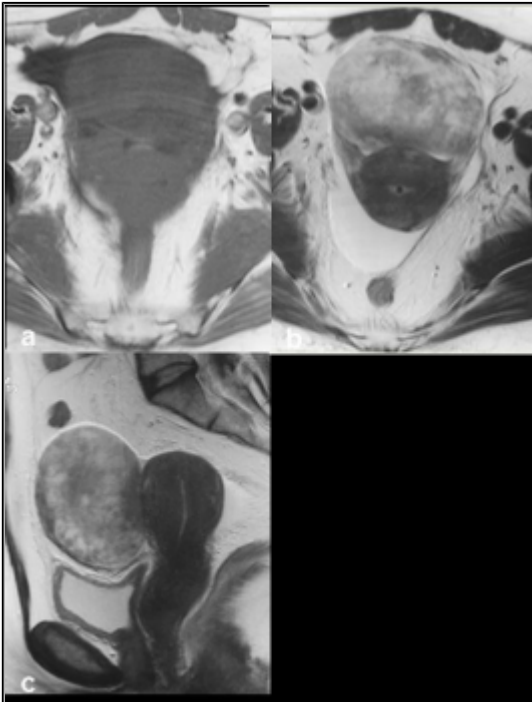


Homogeneous hypodense solid tumour with a focus of calcification located anteriorly to the uterus. Small quantity of peritoneal fluid and an intra-uterine device were also noted.

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Area of Interest: Genital / Reproductive system female;
Imaging Technique: CT;
Procedure: Education;
Special Focus: Pathology;

Figure 2 Pelvic MR

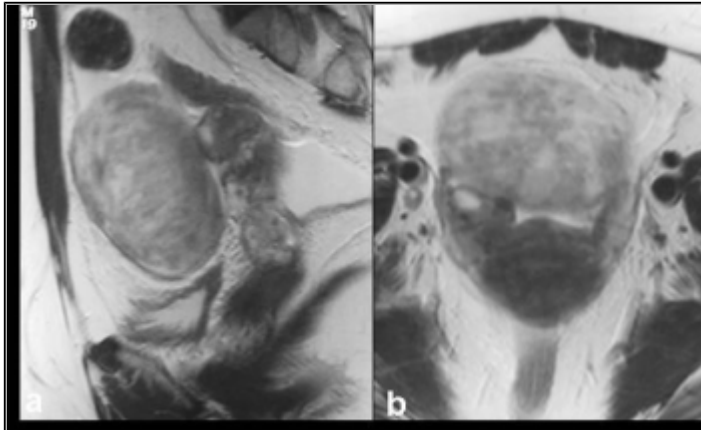


Axial T1 (a) and T2 (b) and sagittal T2 (c). The tumour showed low signal intensity on T1WI and areas of high signal intensity on T2WI. Small volume of intra-peritoneal fluid.

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Imaging Technique: MR;

Figure 3 Pelvic MR



Right para-median sagittal (a) and axial (b) T2 showing the contiguity of the tumour with the anterior face of the right ovary with absence of beak sign. Small amount of ascites.

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Figure 4 Resected tumour on cut section



Macroscopic appearance of the resected tumour on cut section.

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Broad Ligament [A05.360.319.114.170]

A broad fold of peritoneum that extends from the side of the uterus to the wall of the pelvis.

Adnexal Diseases [C13.371.056]

Diseases of the uterine appendages (ADNEXA UTERI) including diseases involving the OVARY, the FALLOPIAN TUBES, and ligaments of the uterus (BROAD LIGAMENT; ROUND LIGAMENT).

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Citation

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